

ID #	Source	Source Type	Category	2007 H/G NOx Emission Inventory (TPD)	Priority Action	Control	Mandated?	Life Cost of Control Measure (Annual \$)	NOx Reduction (TPD/%)	Enforcea bility	Commitabi lity (TO DROP)	Technical Feasibility	Collateral Benefits	Adoptability	Public Acceptability	Implementing Entity Acceptability	Reason Not Implemented (see Legend)*
2	Stationary	Industrial	Boilers	113	Ia	Control of Combustion Conditions [Tier I]	No		5-65%	+	+	+	o	+	+	+	A
7	Stationary	Industrial	Boilers	113	Ib	Low NOx burners (LNB) & Selective catalytic reductions (SCR) [Tier III]	No			+	+	o	Negative safety impacts	+	-	-	A
6	Stationary	Industrial	Boilers	113	Ib	Low NOx burners (LNB) & Selective non-catalytic reductions (SNCR) [Tier III]	No			+	+	o	o	+	+	-	A
3	Stationary	Industrial	Boilers	113	Ia	Low NOx Burners (LNB) [Tier I]	No		45-55%	+	+	+	o	+	+	o	A
5	Stationary	Industrial	Boilers	113	Ia	Selective Catalytic Reduction (SCR) [Tier II]	No		80-90%	+	+	o	Negative safety impacts	+	-	-	A
4	Stationary	Industrial	Boilers	113	Ia	Selective Non-Catalytic Reduction (SNCR) [Tier II]	No		30-70%	+	+	o	o	+	+	-	A
65	Stationary	Industrial	Catalytic Cracking Units	?	Ib	Selective Catalytic Reduction (SCR)	No										A
66	Stationary	Industrial	Catalytic Cracking Units	?	Ib	Selective Non-Catalytic Reduction (SNCR)	No										A
8	Stationary	Industrial	Coal-fired Boilers	?	Ib	Natural Gas Cofiring/Seasonal Fuel Switching	No			+	+	o	o	+	+	-	A
9	Stationary	Industrial	Coal-fired Boilers	?	Ib	Natural Gas Reburn (NGR) or Fuel Staging	No			+	+	o	o	+	+	-	A
16	Stationary	Industrial	Economic Incentives	?	Ib	Cap and Trade Program:	No			+	+	-	o	?	o	-	A
17	Stationary	Industrial	Economic Incentives	?	III	Flexible Implementation: User-defined NOx Reduction Strategy: Alternate Means of Control (AMOC)	No			+	+	+	o	+	+	+	A
63	Stationary	Industrial	Gas-fired Turbines	170	Ib	Dry Low NOx Burners plus Selective Catalytic reductions (DLNB+SCR) [Tier III]	No										A
64	Stationary	Industrial	Gas-fired Turbines	170	Ib	Dry Low NOx Burners plus Selective Non-catalytic reductions (DLNB+SNCR) [Tier III]	No										A
37	Stationary	Industrial	Gas-fired Turbines	170	Ib	Dry low NOx combustors (DLN) [Tier I]	No		30-70%	+	+	+	o	+	+	+	A
38	Stationary	Industrial	Gas-fired Turbines	170	1b	Selective catalytic reductions (SCR) [Tier II]	No		90%	+	+	o	Negative safety impacts	+	-	-	A
39	Stationary	Industrial	Gas-fired Turbines	170	Ib	Water/Steam Injection (WSI)	No		70-90%	+	+	+	o	+	+	o	A
40	Stationary	Industrial	Grandfathered Sources	?	IVb	Accelerated Schedule: Best Available Control Technology (BACT) in 8-county area by 2005	No			+	-	-	o	-	+	-	A

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41	Stationary	Industrial	Grandfathered Sources	?	Ib	Best Available Control Technology (BACT) Mandated for 8-county area by 2007	No			+	+	+	o	-	+	-	A
42	Stationary	Industrial	Grandfathered Sources	?	Ib	Best Available Retrofit Technology (BART) Mandated for 8-county area by 2007	No			+	+	+	o	-	+	-	A
43	Stationary	Industrial	Grandfathered Sources	?	Ib	Clean Air Responsibility Enterprise (CARE)	No			+	-	+	o	+	+	+	A
45	Stationary	Industrial	Incinerators	2	III	Selective Catalytic Reduction (SCR)	No			+	+	+	Negative safety impacts	+	-	-	A
44	Stationary	Industrial	Incinerators	2	III	Selective Non-Catalytic Reduction (SNCR)	No			+	+	o	o	+	+	-	A
11	Stationary	Industrial	Internal Combustion Engines	98	Ia	Combustion control [Tier I]	No		0-93%		+	+	o	+	+	+	A
13	Stationary	Industrial	Internal Combustion Engines	?	Ib	Fuel conversion	No			+	+	o	o	+	+	-	A
12	Stationary	Industrial	Internal Combustion Engines	98	Ib	Prestratified Charge [Tier I]	No		0-90%	+	+	+	o	+	+	-	A
14	Stationary	Industrial	Internal Combustion Engines	98	Ia	Selective catalytic reductions (SCR) [Tier II]	No		0-90%	+	+	o	Negative safety impacts	+	-	-	A
15	Stationary	Industrial	Internal Combustion Engines	98	Ia	Selective non-catalytic reductions (SNCR) [Tier II]	No		0-98%	+	+	o	o	+	+	o	A
46	Stationary	Industrial	Offshore Drilling	?	III	Same as Gas-Fired Turbine?	No										A
29	Stationary	Industrial	Process Heaters	79	Ia	Control of Combustion Conditions [Tier I]	No		50-60%	+	+	+	o	+	+	+	A
33	Stationary	Industrial	Process Heaters	79	Ib	Low NOx burners (LNB) & Selective Catalytic reductions (SCR) [Tier III]	No			+	+	o	o	+	+	-	A
34	Stationary	Industrial	Process Heaters	79	Ib	Low NOx burners (LNB) & Selective non-catalytic reductions (SNCR) [Tier III]	No			+	+	o	Negative safety impacts	+	-	-	A
31	Stationary	Industrial	Process Heaters	79	Ia	Low NOx Burners (LNB) [Tier I]	No		30-60%	+	+	+	o	+	+	+	A
35	Stationary	Industrial	Process Heaters	79	Ia	Selective catalytic reductions (SCR) [Tier II]	No		75-90%	+	+	o	Negative safety impacts	+	-	-	A
36	Stationary	Industrial	Process Heaters	79	Ia	Selective non-catalytic reductions (SNCR) [Tier II]	No		20-60%	+	+	o	o	+	+	-	A
18	Stationary	Industrial	Upsets	?	III	Require Purchase of Emission Reduction Credits to Offset Upset Emission of NOx	No			+	o	+	Could reduce noise and light complaint	o	+	-	K
71	Stationary	Utility	Coal-fired Utility Boilers	?	Ib	Fuel conversion											A

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80	Stationary	Utility	Gas-fired Utility Boilers	?	Ia	Flue gas recirculation (FGR) [Tier I]											A
80a	Stationary	Utility	Gas-fired Utility Boilers	?	Ia	Flue gas recirculation plus Selective Catalytic Reduction (FGR+SCR) [Tier III]											A
80b	Stationary	Utility	Gas-fired Utility Boilers	?	Ia	Flue gas recirculation plus Selective Non-Catalytic Reduction (FGR+SNCR) [Tier III]											A
81	Stationary	Utility	Gas-fired Utility Boilers	?	Ia	Low NOx Burners (LNB) [Tier I]			30-45%								A
81a	Stationary	Utility	Gas-fired Utility Boilers	?	Ia	Low NOx Burners plus Selective Catalytic Reduction (LNB+SCR) [Tier III]			30-45%								A
81b	Stationary	Utility	Gas-fired Utility Boilers	?	Ia	Low NOx Burners plus Selective Non-Catalytic Reduction (LNB+SNCR) [Tier III]			30-45%								A
82	Stationary	Utility	Gas-fired Utility Boilers	?	Ia	Selective Catalytic Reduction (SCR) [Tier II]			80-90%								A
83	Stationary	Utility	Gas-fired Utility Boilers	?	Ia	Selective Non-Catalytic Reduction (SNCR) [Tier II]			30-45%								A
84	Stationary	Utility	Utility Boilers	?	III	Implement demand side management programs to reduce emissions from fossil-fired electric generators				+	o	+	Energy Efficiency	-	+	-	G
190	On-road Mobile	Equipment	Airport	?	IVa	Require airport buses to use CNG by 2004. Administer through franchise permit and airport agency.	No		?	+	o	-	CO2 reduction, energy security	-	+	-	G, J
190a	On-road Mobile	Equipment	Airport	?	IVa	Require airport buses to use electric vehicles by 2004. Administer through franchise permit and airport agency.	No		?	+	o	+	CO2 reduction, energy security, noise reduction	-	+	-	G, J
190b	On-road Mobile	Equipment	Airport	?	IVa	Require airport buses to use fuel cells by 2004. Administer through franchise permit and airport agency.	No		?	+	o	-	CO2 reduction, energy security, noise reduction	-	+	-	G, J
199	On-road Mobile	Equipment	Vehicles	?	II	"Green power" program by city/county to take lead in buying CNG vehicles (medium to light duty trucks).	No		?	+	+	+	CO2 reduction, energy security	+	+	?	E
200	On-road Mobile	Equipment	Vehicles	?	II	"Green power" program by city/county to take lead in buying SUV w/LEV emission equivalent.	No		?	+	+	+		+	+	+	E

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109	On-road Mobile	Fuels, Alternative	All		IVb	Compressed Natural Gas (CNG)	No										G
110	On-road Mobile	Fuels, Alternative	All		IVb	Electric	No										G
111	On-road Mobile	Fuels, Alternative	All		IVb	Fuel cell	No										G
113	On-road Mobile	Fuels, Alternative	All		IVb	Liquified Natural Gas (LNG)	No										G
115	On-road Mobile	Fuels, Alternative	All		IVb	Liquified Propane Gas (LPG)	No										G
114	On-road Mobile	Fuels, Alternative	All		III	Low Sulphur (gasoline)	No										D
109	On-road Mobile	Fuels, Alternative	Buses		IVa	Compressed Natural Gas (CNG)	No										G, J
110	On-road Mobile	Fuels, Alternative	Buses		IVa	Electric	No										G, J
111	On-road Mobile	Fuels, Alternative	Buses		IVa	Fuel cell	No										G, J
113	On-road Mobile	Fuels, Alternative	Buses		IVa	Liquified Natural Gas (LNG)	No										G, J
115	On-road Mobile	Fuels, Alternative	Buses		IVa	Liquified Propane Gas (LPG)	No										G, J
116	On-road Mobile	Supply	Other modes		III	Bikeway activities (I.e. lockers, racks, showers, etc.)	No										G
117	On-road Mobile	Supply	Other modes		II or IVa	Bikeway network expansion (100 additional miles; 264 miles in current COH	No		0.41/0.14%	+	+	+	<VMT, economy	+	+		G
118	On-road Mobile	Supply	Other modes		III	New sidewalks/crosswalks	No										G
119	On-road Mobile	Supply	Other modes		III	School pool programs	No										G
120	On-road Mobile	Supply	Other modes		IVa	Shuttle for hire (clean-fueled)	No										I
121	On-road Mobile	Supply	Traffic Management		III	Remove speed humps	No										K
123	On-road Mobile	Supply	Traffic Management		III	Restrict private traffic control officials on RCTSS streets	No										K
122	On-road Mobile	Supply	Traffic Management		II	Signalization (Regional Computerized Traffic Signalization Systems, Congestion Management Systems)	No										F
124	On-road Mobile	Supply	Transit		IVa	Bus fare reductions - 200,000 new riders	No	High	0.85/0.30%	-	-	+	<VMT, economy	-	-		F
125	On-road Mobile	Supply	Transit		IVa	Bus service: new or expanded (10,000 new riders)	No	Low	0.4/0.14%	-	-	+	<VMT, economy	+	o		F
126	On-road Mobile	Supply	Transit		IVa	Carpools new or expanded (1,000 new carpools)	No		0.08/0.03%	-	-	+	<VMT, speed,	-	o		E

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** STRAWPERSON **
Control Option Evaluations

2/24/99 DRAFT For Discussion Purposes Only

127	On-road Mobile	Supply	Transit		III	Commuter rail (electric-run, assumes 48,000 new riders/1,000,000 VMT reduction)	No		1.37/0.48%									G
128	On-road Mobile	Supply	Transit		III	Consider merging all regional mass transit into 8-county mass transit authority to better coordinate programs	No											K
129	On-road Mobile	Supply	Transit		III	Expand RideShare program	No											E
130	On-road Mobile	Supply	Transit		III	Expand service area	No	Medium		+	-	+	Mobility	-	-			F
131	On-road Mobile	Supply	Transit		III	Heavy rail	No											G
132	On-road Mobile	Supply	Transit		IVa	HOVs new or expanded (10 miles of HOVs, 21 mile avg trip length)	No	No incremental Air Quality cost	-0.14/-0.05%	+	-	+	<VMT, speed, economy	+	+			E
133	On-road Mobile	Supply	Transit		III	Light rail transit (electric-run; assumes 48,000 new riders/100,000 VMT reduction)	No	High	0.98/0.34%	-	-	+	Mobility	-	?			E
134	On-road Mobile	Supply	Transit		III	New technology (guided bus)	No											K
135	On-road Mobile	Supply	Transit		IVa	Park & Rides: new or expanded	No											F
136	On-road Mobile	Supply	Transit		IVa	Tollway fare reductions for High Occupant Vehicles (particularly for the Hardy Toll Road and the proposed Westpark Toll Road)	No											G
137	On-road Mobile	Supply	Transit		III	TRANSTAR expansion	No											K
138	On-road Mobile	Supply	Transit		IVa	TRANSTAR: Incident detection system (covers 20 miles of major freeway corridor)	No		0.02/0.01%	+	+	+	<Idling, <traffic delay, speed, economy	+	+			K
139	On-road Mobile	Supply	Transit		IVa	Vanpools new or expanded (100 new vanpools)	No		0.14/0.05%	-	-	+	<VMT, speed, economy	-	o			E
140	On-road Mobile	Use Restrictions/ Incentives	All		IVa	Clean Air Month - transit subsidy	No		0.11/0.04%		-				+			E
141	On-road Mobile	Use Restrictions/ Incentives	All		III	Drive restrictions (by geographic area)	No											H
142	On-road Mobile	Use Restrictions/ Incentives	All		III	Drive restrictions (time: i.e. time of day or restrict driving on alternate days)	No											H
143	On-road Mobile	Use Restrictions/ Incentives	All		III	Drive-thru restrictions	No											H

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157	On-road Mobile	Use Restrictions/ Incentives	All		Ia	Speed - reduce speed limits from 65 to 60mph	No			+	+	+	Safety as plus, added travel time negative	-	-		A, J
160	On-road Mobile	Use Restrictions/ Incentives	All		III	Telecommuting (1,000 people/day)	No	Change signs	10.45/3.67%		-	-	+	Economy	-	+	E
161	On-road Mobile	Use Restrictions/ Incentives	All		IVa	Transit-oriented development	No										G
162	On-road Mobile	Use Restrictions/ Incentives	All		III	Truck stop idling	No										A
163	On-road Mobile	Use Restrictions/ Incentives	All		IVa	Vehicle scrappage - 1,000 pre-83 cars	No		0.07/0.02%	-	+	+	Safety?	+	+		E
165	On-road Mobile	Use Restrictions/ Incentives	Transit		III	Bus fare reductions - Increase discounts for long-term passes	No										F
166	On-road Mobile	Use Restrictions/ Incentives	Transit		III	Bus fare reductions - Reduce off-peak fare and increase peak hour fare	No										F
168	On-road Mobile	Use Restrictions/ Incentives	Trucks		IVa	Reduce HDDV Idling - 1,000 hrs (Note: Emissions not in current inventory)	No		0.13/0.05%	-	-	+	Economy	-	+		A
170	On-road Mobile	Vehicle Operations	All		III	Adjustments to Modeling Assumptions: Emissions model deterioration rate	No										K
171	On-road Mobile	Vehicle Operations	All		III	Adjustments to Modeling Assumptions: Speed controls by type of vehicle	No										K
169	On-road Mobile	Vehicle Operations	All		III	Air conditioner use assumptions in emissions model plus reduction options	No										K
172	On-road Mobile	Vehicle Operations	All		III	Traffic Calming (reduce fast starts/stops)	No										K
174	On-road Mobile	Vehicle Standards	All		Ib	Accelerated national standards: _____	No										B?
175	On-road Mobile	Vehicle Standards	Autos		Ib	California Lower Emissions Vehicle (LEV)	No										A, J
176	On-road Mobile	Vehicle Standards	Autos		Ib	Light Duty Diesel "lower NOx" emissions	No										B?
177	On-road Mobile	Vehicle Standards	Autos		Ia	National Low Emissions Vehicle (NLEV)	Mandated 2001										B
178	On-road Mobile	Vehicle Standards	Autos		Ia	Tier 2 EPA Emissions Standards	No										B
179	On-road Mobile	Vehicle Standards	Autos		Ib	Ultra Low Emissions Vehicle (ULEV)	No										G
180	On-road Mobile	Vehicle Standards	Autos		Ib	Zero Emissions Vehicle (ZEV)	No										G

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209	Off-road Mobile	Fuels	All	?	Ib	Reformulated Gasoline II (RFGII)	Mandated		?								C
210	Off-road Mobile	Use Restrictions/ Incentives	Agricultural		III	Fertilizer substitutions											K
211	Off-road Mobile	Use Restrictions/ Incentives	Agricultural		III	Restrictions on use of equipment at certain time of day/week/season											I
212	Off-road Mobile	Use Restrictions/ Incentives	Airport		III	Airplane ground operations - taxiing; scheduling											K
231	Off-road Mobile	Use Restrictions/ Incentives	All		IVa	Regulate speed and course in Texas waters of Gulf of Mexico											K
213	Off-road Mobile	Use Restrictions/ Incentives	Construction		III	Contract Incentives											K
214	Off-road Mobile	Use Restrictions/ Incentives	Construction		III	Restrictions on use of equipment at certain time of day/week/season											A
215	Off-road Mobile	Use Restrictions/ Incentives	Marine vessels		IVb	Dockside operations limitations/incentives											G
216	Off-road Mobile	Use Restrictions/ Incentives	Marine vessels		III	Incentives for use of low emission fuels in tugboats											G
217	Off-road Mobile	Use Restrictions/ Incentives	Marine vessels		IVa	Regulate speed within Houston Ship Channel											G
220	Off-road Mobile	Vehicles/ Equipment	All		Ib	Compression ignition standard <50 hp	Mandated										B
221	Off-road Mobile	Vehicles/ Equipment	All		Ib	Compression ignition standard >50 hp	Mandated										B
222	Off-road Mobile	Vehicles/ Equipment	All		Ib	Small gasoline engine stds <= 25 hp	Mandated										B
232	Off-road Mobile	Vehicles/ Equipment	Recreational Vehicles		Ib	California recreational vehicle standards for spark ignition engines <= 25 hp											B
223	Off-road Mobile	Vehicles/ Equipment	Recreational Vehicles		Ib	Spark ignition engine standard >25 hp	Mandated										A
219	Off-road Mobile	Vehicles	Aircraft		III	Aircraft standards - Commercial airplanes											B
187	Off-road Mobile	Vehicles	Aircraft	?	III	Aircraft standards - General airplanes			?								B
224	Off-road Mobile	Vehicles	Locomotive		Ib	Locomotive standards	Mandated										B
225	Off-road Mobile	Vehicles	Marine vessels		Ib	EPA's marine vessel standards >50 hp (proposed 12/11/98)	Proposed										B

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226	Off-road Mobile	Vehicles	Marine vessels		Ib	MARPOL (proposed for 2000 implementation)	Proposed											C
227	Off-road Mobile	Vehicles	Recreational Marine (Gasoline)		Ib	Recreational marine gasoline engine standards	Mandated											B
230	Area	All	All		III	Urban heat island reduction strategies: Planting trees, painting buildings, architectural design elements												G
228	Area	Equipment	Offshore sources		III	Emission controls												K
229	Area	Equipment	Offshore sources		III	Restrictions on use of equipment at certain time of day/week/season												K
		Legend: A = State rule B = Federal rule C = Being implemented D =State rule withdrawn E = VMEP F = TCM G = Possible enforceable commitment H = Technically infeasible I = Economically infeasible J = Alternate plan implemented K = Insufficient information to evaluate																

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